

PHOTONIC CRYSTAL LIGHT EMITTING DEVICE

ABSTRACT OF THE DISCLOSURE

A photonic crystal structure is formed in an n-type layer of a III-nitride light emitting device. In some embodiments, the photonic crystal n-type layer is formed on a tunnel junction. The device includes a first layer of first conductivity type, a first layer of second conductivity type, and an active region separating the first layer of first conductivity type from the first layer of second conductivity type. The tunnel junction includes a second layer of first conductivity type and a second layer of second conductivity type and separates the first layer of first conductivity type from a third layer of first conductivity type. A photonic crystal structure is formed in the third layer of first conductivity type.